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DSSD CENSUS 2000 PROCEDURES AND OPERATIONS MEMORANDUM SERIES B-5

MEMORANDUM FOR Howard Hogan
Chief, Decennial Statistical Studies Division

From: David C. Whitford *DCW*
Assistant Division Chief for Statistical Program Management
Decennial Statistical Studies Division

Prepared by: Patricia Feindt and Rosemary Byrne *P.F. RLB*
Decennial Statistical Studies Division

Subject: Accuracy and Coverage Evaluation Survey:
Person Interviewing Results (Prototype)

The attached document is a prototype of the report that we will prepare, per your request, following completion of applicable Accuracy and Coverage Evaluation Survey (A.C.E.) operations. The completed report is intended to aid the Executive Steering Committee on A.C.E. Policy (ESCAP) in its recommendation regarding the release of the statistically corrected data or the data without statistical correction as the PL 94-171 data. This report, together with other reports, will assess the operations and results of both the initial Census and the A.C.E. Both sets of assessments will be available to the ESCAP to aid the Committee in reaching its recommendation regarding the use of the statistically corrected data.

The attached prototype contains both empty table shells and a description of textual analysis that will assess specific aspects of the applicable operations. This report focuses on the person interviewing results, including the quality control data for this operation.

It is important to note that the conduct of the operations may lead us to modify the attached format by including additional information. It is also likely that descriptions and definitions will be enhanced or the data items could undergo revision. Conversely, we may conclude, for a variety of reasons, that some of the information set forth in the attached prototype may not be available. The attached document sets forth our conclusions prior to completion of the A.C.E. about what information would properly inform the ESCAP on this subject, but is subject to modification.

Accuracy and Coverage Evaluation 2000

Person Interviewing

Introduction

The person interview (PI) operation of the Accuracy and Coverage Evaluation (A.C.E.) consisted of two phases: the telephone phase and the personal visit phase. The telephone phase, conducted between 4/25/00-6/13/00, was followed by the personal visit phase, which was conducted between 6/18/00-9/11/00.

This report focuses on data obtained from the PI operation. This information will help determine how well the person interviewing operation was performed. Data is provided for each phase of interviewing, by type of outcome and by the number of interviews conducted per day. Using these results may give you an insight about the quality of the data. Low refusal rates and high completion rates as well as low proxy rates may indicate quality data. In addition, the percentage of cases completed close to Census Day may provide you further information about the quality of the A.C.E. person interviewing data.

The Census Bureau made two primary changes to the PI operation for the 2000 A.C.E. First, the Census Bureau used Computer Assisted Personal Interviewing (CAPI) software in this operation. The CAPI instrument was designed to collect information on three types of people: those who lived at the sample address at the time of the interview and on census day (nonmovers), those who moved into the sample address since census day (inmovers) and those who lived at the sample address on census day but lived elsewhere at the time of the A.C.E. person interview (outmovers). The CAPI instrument collected household information such as the household roster, age, sex and race. After the rosters and demographic characteristics were obtained, the CAPI instrument established the census day residence status. (Refer to document DSSD2000PO-S-QD-01, Specifications for the Census 2000 Accuracy and Coverage Evaluation Computer Assisted Interview (CAI) Person Interview.)

Second, the A.C.E. design permitted the use of telephone interviews to get an early start on interviewing without waiting until census non-response follow-up (NRFU) had been completed for a Local Census Office (LCO). To protect the independence of A.C.E. and the Census, A.C.E. personal visit interviews could not start in LCO areas where NRFU was not 90% complete plus a seven day time lag. That is, A.C.E. and census interviewers were not to be working in the field in a given LCO at the same time.¹ Interviewers were allowed to contact households by telephone that

¹Three Chicago LCOs had special permission to begin personal visit interviewing in an LCO where NRFU was continuing. (Refer to DSSD Memorandum Series Chapter S-TL-13).

were not part of NRFU. Housing units whose census questionnaire data was successfully captured, and whose questionnaire included a telephone number, were eligible for the telephone phase, depending on the unit structure and whether or not the unit was classified as rural or urban. Housing units without house number and street name addresses, as well as housing units in small multi-unit structures (less than 20 units), were excluded from telephone interviewing since many small multi-unit structures and many houses in rural areas do not have addresses that would allow the telephone interviewer to accurately identify the address over the telephone.

The Census Bureau implemented this process to enhance the efficiency and quality of the A.C.E. interview. Shortening the elapsed time from Census Day to the A.C.E. enumeration should improve data quality. Also, starting early in an environment that is more easily controlled should allow the A.C.E. enumerators to gain valuable experience in conducting interviews and in operating their laptop computers. The Census Bureau designed this process in a fashion that should maintain the independence between the A.C.E. and the other Census 2000 operations.

During the telephone phase the interviewers only interviewed housing units that already provided Census information, therefore it could be assumed that there was independence between the A.C.E. interviewing and the Census NRFU since these units were not eligible for NRFU. It is possible however, that some of these cases might have been visited later during NRFU, and their responses to that operation were influenced by the A.C.E. interview. While this type of contamination can occur, we believe its effect will be small and quite difficult to detect. Our analysis will be restricted to reviewing any available reports from the field, the matching clerks or the public that might indicate more than a few people were contacted in advance of their non response follow-up visit.

After the telephone phase closed out, all remaining interviews were conducted in the personal visit phase. The design allowed for some interviews to be conducted by telephone during the personal visit phase with special permission from head quarters for units that were difficult to reach in person because of gated communities or secured buildings. These cases happened very rarely and were mostly restricted to the New York City area.

Interview Design

The A.C.E. person interview design consisted of 300,913 units. The interviewer had six weeks to complete the interview, after which the case was sent for non response conversion (NRCO). For the first three weeks, the interviewer was required to interview an eligible household member. If after three weeks, the interviewer was not successful in obtaining an interview, the interviewer was permitted to obtain the interview from a non household member, referred to as a proxy. The non response conversion operation attempted to use the best interviewers available. The timing of the person interview operation was as follows:

- Telephone Phase 4/25/00-6/13/00
- Personal Visit Phase 6/18/00-9/11/00
- NRCO 7/27/00-9/11/00

One local census office, Hialeah, Florida was found to have problems during the Census 2000 operation. The Census 2000 decided to reinterview all of Hialeah for data quality. The A.C.E. person interview for Hialeah was conducted 8/18/00-9/11/00. All other LCOs finished interviewing by 9/01/00 as scheduled.

Highlights

These results only refer to data received from field interviewing. After field interviewing is completed, the computer post processing is performed. Some of the completed and partial interviews will be reclassified as non interviews if they fail the post processing. The non interview rate used in Childer's document, Person Matching and Follow-up Results, consists of refusals from the field interviewing as well as whole households that failed the computer post processing edit. This document only reports data collected during interviewing. We do not provide a non interview rate since we do not have the post processing non interview rate information. Refer to the B series document for Person Matching and Follow-up Results.

Listed below are table summaries of the person interview operation.

Table 1 shows the distribution of personal interview cases by both phases, the telephone and personal visit. These tables are also shown by Regional Office in Appendix A.

Table 1: Distribution of Person Interviews by Telephone and Personal Visit Phases

	Telephone Phase	Personal Visit Phase	Total Workload
# Interviews Conducted			
Percent of PI Workload			100%

The table above shows a distribution of all interviews conducted. This includes completed interviews where all respondent information was obtained, sufficient partials where the crucial respondent information was obtained, refusals where the respondent refused to answer questions, and addresses found to be vacant or non existent housing units.

Table 2 shows the distribution of interviews completed for each week of interviewing. We will also show this by Regional Office in Appendix A and by graph if appropriate. More detailed results by telephone and personal visit phases are shown in subsequent sections.

Table 2: Distribution of All Interviews Conducted by Interview Week- Unweighted

Interview Week Starting On	# Interviews Conducted Overall	Overall Percent of PI Work-load	# Interviews Conducted During Telephone Phase	Telephone Percent of PI Work-load	# Interviews Conducted During Personal Visit Phase	Personal Visit Percent of PI Work-load
April 24, 2000						
May 1, 2000						
May 8, 2000						
May 15, 2000						
....						
Sept 11, 2000						

Table 3 shows the median, mean, maximum and minimum number of interviews completed per week by interview phase and overall. We will also show this by Regional Office in Appendix A.

Table 3: Distribution of All Interviews Conducted by Weekly Statistic - Unweighted

	# Interviews Conducted Overall	# Interviews Conducted During Telephone Phase	# Interviews Conducted During Personal Visit
Median Number of Interviews Completed per Week			
Mean Number of Interviews Completed per Week			
Maximum Number of Interviews Completed per Week			
Minimum Number of Interviews Completed per Week			

Detailed Telephone Phase Results

During the telephone phase interviewers were instructed to contact the unit by telephone, however if the respondent was reluctant to provide information by telephone, then the interviewer reassigned the case for a personal visit. The telephone phase was conducted from 4/25/00-6/13/00 in all 12 A.C.E. Regional Offices (ACEROs).

Variables Defined:

Each interview had a field outcome code based on the information obtained from the CAPI. In addition, each interview had an occupied status code based on where the respondents lived on both census day and interview day. The definitions listed below apply to the following tables.

Field Outcome Codes: The outcome from the CAPI interview as of interview day. Each housing unit receives an outcome code based on the CAPI interview. The computer assigns these outcome codes.

- | | |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Complete | All information obtained |
| • Sufficient Partial | Household roster, two or more demographic characteristics and the census residence status code were obtained |
| • Refusal/
No knwl Resp
or other refusal | The respondent refused, there was no knowledgeable respondent or other refusal. This is a rare occurrence during the telephone phase since these cases would usually be reassigned to the personal visit phase |
| • Vacant Interview Day | The unit was vacant on interview day. This is a rare occurrence for the telephone phase |
| • Non Existent Interview Day | The unit was non existent on interview day. The unit was either demolished or did not exist as a housing unit on interview day. This includes housing units found to be a business on interview day. This is a rare occurrence for the telephone phase |

Occupied Status Code: The occupancy status of housing units determines whether the unit was occupied, vacant or non existent on census day or interview day.

- | | |
|-----------------|-------------------------------|
| • Occupied Unit | The housing unit was occupied |
|-----------------|-------------------------------|

- **Vacant Unit** The housing unit was vacant
- **Non Existent Unit** The housing unit did not exist
- **Refusal/No information** Occupancy status could not be determined because of refusal or no information provided

Respondent: The type of respondent who is interviewed.

- **Household Member(Hholder)** Someone who lives at the sample address and is at least 15 years old
- **Proxy** Someone who is not a household member, such as a landlord, neighbor or friend

Table 4 shows the unweighted distribution of interviews conducted during the telephone phase by field outcome code for interview day. We will also show this by Regional Office in Appendix A.

Table 4: Distribution of Interviews Conducted During the Telephone Phase by Field Outcome Code for Interview Day - Unweighted

	Completed Interviews	Sufficient Partial Interviews	Refusal, No knwl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day
Number of Interviews					
Percent of Total Interviews					

Table 5 below shows the unweighted distribution of interviews conducted during the telephone phase by field outcome code for interview day for each regional office (RO).

Table 5: Distribution of Interviews Conducted During the Telephone Phase by Field Outcome Code for Interview Day by Regional Office - Unweighted

A.C.E. Regional Office	Completed Interviews	Sufficient Partial Interviews	Refusal, No knowl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day	Total Interviews
Boston						
New York						
Philadelphia						
Detroit						
Chicago						
Kansas City						
Seattle						
Charlotte						
Atlanta						
Dallas						
Denver						
Los Angeles						
Total						

Table 6 shows the unweighted distribution of interviews conducted during the telephone phase by field outcome code for the interview day and household member vs. proxy.

Table 6 :Distribution of Interviews Conducted During the Telephone Phase by Field Outcome Code for Interview Day and by Household Member vs. Proxy- Unweighted

	Completed Interviews	Sufficient Partial Interviews	Refusals, No Kwnl resp or other	Vacant on Interview Day	Non Existent on Interview Day
Number of Interviews					
Hhlder					
Proxy					
Percent of Interviews					
Hhlder					
Proxy					

Table 7 shows the unweighted distribution of interviews conducted during the telephone phase by field outcome code for interview day and household member vs. proxy for each A.C.E. Regional Office.

Table 7 :Distribution of Interviews Conducted During the Telephone Phase by Field Outcome Code for Interview Day and by Household Member vs. Proxy by Regional Office - Unweighted

A.C.E. Regional Office	Completed Interviews		Sufficient Partial Interviews		Refusal, No knowl resp or other refusal		Vacant on Interview Day		Non Existent on Interview Day		Total Interviews	
	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy
Boston												
New York												
Philadelphia												
Detroit												
Chicago												
Kansas City												
Seattle												
Charlotte												
Atlanta												
Dallas												
Denver												
Los Angeles												
Total												

Table 8 shows the distribution of interviews conducted during the telephone phase by type of outcome code and number of interviews completed per day. These tables are shown by Regional Office in Appendix A. We may also show these data in graph form.

Table 8: Distribution of Interviews Conducted Per Day During the Telephone Phase by Type of Field Outcome Code for Interview Day- Unweighted

Date of Interview	Completed Interviews	Sufficient Partial Interviews	Refusals, No knowl resp or other refusal	Vacants on Interview Day	Non Existent on Interview Day	Total Interviews
April 25 2000						
April 26, 2000						
April 27, 2000						
April 28, 2000						
....						
June 13, 2000						
Total interviews						

Table 9 shows the distribution of interviews conducted during the telephone phase by occupied status code by Interview vs. Census Day status. These tables are shown by Regional Office in Appendix A.

Table 9 :Distribution of Interviews Conducted During the Telephone Phase by Occupied Status Code by Interview vs. Census Day Status - Unweighted

Occupied Status Code	On Interview and Census Day	On Interview Day Only	On Census Day Only	Total Units
Number of Occupied Units				
Number of Vacant Units				
Number of Non Existent Units				
Number of Refusals/No occupied information provided				
Total Units				

Table 10 shows the distribution of interviews and refusals by Household Member vs. Proxy by Interview day vs. Census day status. These tables are shown by Regional Office in Appendix A.

Table 10: Distribution of Interviews Conducted During the Telephone Phase by Interview Day Outcome and by Interview Day vs. Census Day Occupied Status - Unweighted

	On Interview Day and Census Day	On Interview Day Only	On Census Day Only	Total Interviews
Interview				
Household Member				
Proxy				
Refusals, No knwl respondent or other refusal				
Household Member				
Proxy				

Detailed Personal Visit Phase Results

The personal visit phase was conducted from 6/18/00-9/01/00 in all 12 A.C.E. Regional Offices (ACEROs) except for Hialeah which was conducted from 8/18/00-9/11/00. Most interviews during this phase were conducted by personal visit, however in special circumstances such as locked buildings, the interview was conducted by telephone.

Variables Defined:

Each interview had a field outcome code based on the information from the CAPI. In addition, each interview has an occupied status code based on where they lived during census day and interview day. The definitions listed below apply to the following tables.

Field Outcome Codes: The outcome from the CAPI interview as of interview day. Each housing unit receives an outcome code based on the CAPI interview. The computer assigns these outcome codes.

- | | |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Complete | All information obtained |
| • Sufficient Partial | Household roster, two or more demographic characteristics and the census residence status code were obtained |
| • Refusal/
No knwl Resp
or other refusal | The respondent refused, there was no knowledgeable respondent or other refusal |
| • Vacant Interview Day | The unit was vacant on interview day |
| • Non Existent Interview Day | The unit was non existent on interview day. The unit was either demolished or did not exist as a housing unit on interview day. These included housing units found to be a business on interview day |

Occupied Status Code: The occupancy status of housing units determines whether the unit was occupied, vacant or non existent on census day or interview day.

- | | |
|---------------------|--------------------------------|
| • Occupied Unit | The housing unit was occupied |
| • Vacant Unit | The housing unit was vacant |
| • Non Existent Unit | The housing unit did not exist |

- **Refusal/No information** Occupancy status could not be determined because of refusal or no information provided

Respondent: The type of respondent who is interviewed.

- **Household Member (Hholder)** Someone who lives at the sample address and is at least 15 years old
- **Proxy** Someone who is not a household member, such as a landlord, neighbor or friend

Table 11 below shows the distribution of interviews during the personal visit phase by field outcome code. We will also show this by Regional Office in Appendix A.

Table 11: Distribution of Interviews conducted during the Personal Visit Phase by Field Outcome Code for Interview Day- Unweighted

	Completed Interviews	Sufficient Partial Interviews	Refusal, No knwl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day
Number of Interviews					
Percent of Total Interviews					

Table 12 below shows the unweighted distribution of interviewing conducted during the personal visit phase by field outcome codes for interview day for each regional office.

Table 12: Distribution of Interviews Conducted during the Personal Visit Phase by Field Outcome Code for Interview Day by Regional Office - Unweighted

A.C.E. Regional Office	Completed Interviews	Sufficient Partial Interviews	Refusal, No knowl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day	Total Interviews
Boston						
New York						
Philadelphia						
Detroit						
Chicago						
Kansas City						
Seattle						
Charlotte						
Atlanta						
Dallas						
Denver						
Los Angeles						
Total						

Table 13 shows the unweighted distribution of interviews conducted during the personal visit phase by outcome codes and household member vs. proxy for the interview day.

Table 13: Distribution of Interviews Conducted During the Personal Visit Phase by Field Outcome Code for Interview Day and by Household Member vs. Proxy - Unweighted

	Completed Interviews	Sufficient Partial Interviews	Refusals, No Knwl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day
Number of Interviews					
Hholder					
Proxy					
Percent of Interviews					
Hholder					
Proxy					

Table 14 shows the unweighted distribution of interviews conducted during the personal visit phase by type of outcome code for interview day and household member vs. proxy for each regional office.

Table 14 : Distribution of Interviews Conducted During the Personal Visit Phase by Field Outcome Code for Interview Day and by Household Member vs Proxy by Regional Office - Unweighted

A.C.E. Regional Office	Completed Interviews		Sufficient Partial Interviews		Refusal, No knowl resp or other refusal		Vacant on Interview Day		Non Existent on Interview Day		Total Interviews	
	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy	Hhlder	Proxy
Boston												
New York												
Philadelphia												
Detroit												
Chicago												
Kansas City												
Seattle												
Charlotte												
Atlanta												
Dallas												
Denver												
Los Angeles												
Total												

Table 15 shows the distribution of interviews conducted during the personal visit phase by type of field outcome code and number of interviews completed per day. We will also show these tables by Regional Office. We may also show these data in graph form.

Table 15: Distribution of Interviews Conducted in the Personal Visit Phase by Field Outcome Code for Interview Day- Unweighted

Date of Interview	Total Interviews	Completed Interviews	Sufficient Partial Interviews	Refusals, No knwl resp or other	Vacants on Interview Day	Non Existent on Interview Day
June 18, 2000						
June 19, 2000						
June 20, 2000						
June 21, 2000						
....						
Sept 11, 2000						
Total						

Table 16 shows the unweighted distribution of interviews conducted during Personal Visit Phase by occupied status code by interview day and census day status. We will also show this by Regional Office in Appendix A.

Table 16: Distribution of Interviews Conducted During the Personal Visit Phase by Occupied Status Code by Interview Day vs Census Day Status

Occupied Status Code	On Interview and Census Day	On Interview Day Only	On Census Day Only	Total Units
Number of Occupied Units				
Number of Vacant Units				
Number of Refusals, No occupied information provided				
Total Units				

Table 17 shows the distribution of interviews by interview status and Household Member vs. proxy conducted during the personal visit phase. We will also show this by Regional Office in Appendix A.

Table 17: Distribution of Interviews Conducted During the Personal Visit Phase by Interview Day Outcome and by Interview vs Census Day Occupied Status - Unweighted

	On Interview Day and Census Day	On Interview Day Only	On Census Day Only	Total Interviews
Interviewed				
Household Member				
Proxy				
Refusal, No knwl Respondent or other Refusal				
Household Member				
Proxy				

Non Response Conversion (NRCO)

The non response conversion (NRCO) was conducted from 7/27/00 to 9/11/00. All LCOs except for Hialeah finished 9/01/00 as scheduled. All NRCO operations are done to reduce the number of non interviews by assigning difficult cases to the best interviewers. NRCO operations started six weeks into the personal visit phase. NRCO lasted two weeks for each A.C.E. cluster.

Table 18 shows the unweighted distribution of NRCO cases by their field outcome codes. We will also show this by Regional Office in Appendix A.

Table 18: Distribution of NRCO cases by field outcome codes - Unweighted

	NRCO Cases Completed Interviews	NRCO Cases Converted to Partial Interviews	NRCO Cases Refused	NRCO Cases Converted to Vacant	NRCO Cases Converted to Non-Existent	Total NRCO Cases
Number NRCO Cases						
Percent of all NRCO Cases						100%

Table 19 shows the unweighted distribution of NRCO interviews in the personal visit phase by outcome code and number of interviews completed per day. We will also show this by Regional Office in Appendix A.

Table 19: Distribution of NRCO Interviews in the Personal Visit Phase by Type of Outcome Code per Day - Unweighted

Date of Interview	Completed Interviews	Sufficient Partial Interviews	Refusals, No knowl Resp, or other refusal	Vacants on Interview Day	Non Existent on Interview Day	Total Interviews
07/27/00						
07/28/00						
07/29/00						
....						
09/11/00						

Comparison of 1990 PES with 2000 A.C.E.

Introduction

In 1990 the Census Bureau conducted a Post-Enumeration Survey (PES). The 1990 PES sample consisted of 166,065 housing units. Field interviewing was completed by July 1990 in most areas and by early September for all areas. The 1990 PES did not have a telephone phase as the 2000 A.C.E. did.

1990 PES Personal Interview Results Compared to the 2000 A.C.E. Personal Interviewing Results

If data is available we will compare the personal interviewing results of the 1990 PES and the 2000 A.C.E. by type of outcome codes nationally and by Regional Office. Table 20 below provides a prototype of a table we may provide.

Table 20: Comparison of the 1990 PES PI Results and the 2000 A.C.E. PI Results by Occupied Status - Unweighted

Occupied Status	1990 PES		2000 A.C.E	
	Number	Percent	Number	Percent
Total Housing Units				
Vacant				
Occupied				
Interviews				
Household Member				
Proxy				
Refusals, No Knowledgeable Respondent				

Quality Assurance of the A.C.E. Person Interview Operation

Introduction

The Quality Assurance plan for 2000 A.C.E. Person Interviewing incorporates several important changes from the plan for Person Interviewing in the 1990 Post Enumeration Survey (PES) in response to deficiencies in the PES design.

In 2000 A.C.E., we expect the quality of interviewing to be better controlled and more effective because the interviewing and quality assurance re-interviewing are fully automated. The Quality Assurance plan for 1990 consisted of checking both the accuracy of the list (roster) of household members and a verification that the original interviewer contacted the correct respondent. For 2000, the checks to ensure the quality of the roster of household members were built into the automated instrument. Examples of the improvements are:

- Additional questions added to the instrument to aid in capturing the people commonly left off of the roster such as roommates or live in employees.
- The instrument establishes and assigns codes indicating a status of nonmover, inmover, outmover.
- Built in quality checks to be sure information about both current day and census day residents are collected.
- Quality checks on allowable data values.
- Cases with insufficient information remained on the laptop and were not allowed to be transmitted to head quarters unless a supervisor reviewed or reassigned the case.
- Supervisors used various reports generated by the automated system to indicate cases which may be more likely to be inaccurate or contain missing information.

Background

The Quality Assurance (QA) plan for the A.C.E. Computer Assisted Personal Interview (CAPI) operation consisted of a reinterview, called the QA interview, of a sample of the original interviews to determine whether the original interviewer contacted the correct respondent. Most QA interviews were intended to be conducted via telephone but there were field procedures for personal visits when the telephone attempts failed. The QA interview determined whether or not the original respondent was contacted by the interviewer. If a case failed this check, the QA version replaced the original CAPI interview in all future processing and was used in the Person Matching operation. All cases that failed the check were investigated by the QA supervisors in the ACEROs. The QA supervisor recorded whether or not the case was intentionally inaccurate. In this investigation, some cases were determined to be intentionally inaccurate while others were determined to have failed the check due to respondent or interviewer error or instrument

problems⁵ rather than blatant inaccuracy. Therefore the number of cases confirmed to fail QA is smaller than the number of cases which were replaced by the QA interview.

The QA sample consisted of a preselected random sample of 5% of the total CAPI caseload and another sample consisting of cases targeted by the QA supervisors for various indicators likely to predict inaccurate data or insufficient data quality. The targeted sample was intended to account for another 5% of the total workload. The randomly sampled cases were preselected before the cases were assigned to individual interviewers. If, after the interview, a case was a non-interview (no knowledgeable respondent could be found or a refusal or there was a language barrier) this case was not eligible for QA even if it was in the preselected sample. Such cases were sent to the Non-Response Conversion Operation (NRCO).

Because we attempted to use the best interviewers for the NRCO, there was no QA on the NRCO caseload. Additionally, since NRCO occurred after the telephone and personal visit stages of person interviewing in each LCO, we can assume that work from each NRCO interviewer was checked before NRCO began and that these interviewers did not fail the QA. The NRCO caseload does not fall into the scope of this analysis.

In addition to the QA interview, there were other quality check procedures implemented to aid in detection of poor quality cases and inaccurate data. A report was distributed to the ACEROs which listed cases which appeared to be completed interviews but would be considered non-interviews in the Person Matching operation due to incomplete names and missing demographic information. When feasible, the ACEROs re-assigned such cases to get a better quality interview. Field Head quarters staff also carefully monitored the QA supervisors' reports on the potentially inaccurate cases to be sure these reports contained specific and conclusive information. While both of these strategies aided in the overall quality of the PI data, they are not included in the calculation of the estimated quality in the PI data described in this report.

Cases Which Failed QA

To determine an estimate of the quality in CAPI, the number of cases which failed QA is used to estimate an overall failure rate which is then applied to all cases not in the QA sample. Cases in the QA sample are assumed to have no error since if the original case was erroneous, it was replaced by the QA interview.

The outcome of QA cases for each phase of interview (telephone, personal visit) is classified by

⁵An instrument problem occurred in the QA instrument which caused incorrect text to be displayed to the interviewer in certain situations, that is, asking about whether an interview conducted in person was contacted by phone. Identifying the problem and implementing a procedural solution took a couple of weeks and in the interim this error caused approximately XXX cases to wrongly be categorized as 'possibly failing QA'. As part of the QA process, the QA supervisor determined that these cases did not fail QA.

whether the case was randomly selected or targeted by a supervisor for a QA interview.

Table 21 shows the results for cases where the original CAPI interview was conducted during the telephone stage. Table 22 shows the results for personal visit cases. Table 23 combines the results of this to present results regardless of the mode of interview. In all three tables, standard errors are also presented.

**Table 21 Outcome of QA Cases in the Telephone Phase by Method of Selection
(standard error in parenthesis)**

QA Results	Randomly Preselected	Targeted	Total
Pass			
Fail			
Total (n)	100%	100%	100%

**Table 22 Outcome of QA Cases in the Personal Visit Phase by Method of Selection
(standard error in parenthesis)**

QA Results	Randomly Preselected	Targeted	Total
Pass			
Fail			
Total (n)	100%	100%	100%

Table 23 Outcome of QA Cases for All Interviews by Method of Selection
(standard error in parenthesis)

QA Results	Randomly Preselected	Targeted	Total
Pass			
Fail			
Total (n)	100%	100%	100%

Estimated Quality Rate

The QA pass/fail rate from the randomly selected sample of cases will be used to estimate a quality rate for those cases not selected for QA (either randomly or targeted). Hypothesis tests (using $\alpha = 0.10$) are used to determine whether to use two estimates, one for cases completed in the telephone stage and another for cases completed during the personal visit stage, or, if there is no significant difference, whether to use an overall estimate to determine pass/fail rates in the out of sample cases.

Table 24 Estimated Number of Cases Failing QA

	Failed Cases (a)	Estimated Failed Cases (b)	Total CAPI Cases (c)
Interview Stage			
Telephone			
Personal Visit			
Total			

Results

(A summary will be completed when the actual numbers are available)

Assumptions of the QA Plan

The QA interview is assumed to be correct. There is no quality assurance of the quality assurance operation.

The QA plan is designed around the assumption that interviewers will either blatantly misrepresent the data in several of the cases or not at all. That is, if someone plans to make up data they will likely not be very creative. Therefore we target blatant inaccuracy by looking for consistent or conspicuous types of results such as using the same name for respondents across cases, using famous names for household members, completing cases too late to really have been interviewing at someone's house, etc.

Limitations of QA

If an interviewer failed the QA check, his/her unfinished cases may have been reassigned to different interviewers. Therefore we are not able to reflect the effect this interviewer's potential harm might have had on the quality estimate had it gone on undetected.

Determining failure can be somewhat subjective. To determine if there were in fact willful inaccuracies entered for a case, the QA supervisor may contact the QA interviewer, the CAPI respondent and on rare occasions the original PI interviewer. Additionally the supervisor may use interviewer notes (both PI and QA) or records showing each keystroke into the instrument. Because this is a serious situation, usually resulting in termination, the benefit of the doubt was given to the PI interviewer in cases where the QA supervisor could not make a determination.

During the supervisor's evaluation of the cases, some cases were determined to be erroneous but not intentionally inaccurate. This can happen for a variety of reasons, e.g., the original interviewer inadvertently conducted the interview at the wrong housing unit. While the QA plan was designed to measure and correct blatant inaccuracy, it was not designed to measure the effect of erroneous cases that are not corrected. Cases considered erroneous but not blatantly inaccurate do not contribute to the estimate of the overall quality of the person interviewing data and hence, did not fail QA. However, a summary is provided in this report tabulating the most common outcomes of such cases in an attempt to understand the effect such cases may have had on the final data.

Based on a review of the QA supervisor notes, Table 25 shows the most common outcomes of the cases which were replaced by a QA interview but did not fail QA.

Table 25 Tabulation of Supervisor's Assessments of Replacement Cases Not Failing QA by Method of Selection

Supervisor Assessment	Method of Selection		
	Randomly Preselected	Targeted	Total
description of outcome #1			
description of outcome #2			
• • •			
description of outcome #n			
Total (n)	100%	100%	100%

References

- Byrne, R. (May 2000), "Census 2000 Quality Assurance Plan for the A.C.E. CAPI Person Interview", DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-03.
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- Childers, Danny R. (2000). "Accuracy and Coverage Evaluation: The Design Document", DSSD Census 2000 Procedures and Operations Memorandum Series, Chapter S-DT-1.
- Childers, Danny R. (September 2000). "Person Matching and Follow-up Results", DSSD Census 2000 Procedures and Operations Memorandum Series B-6
- Keeley, Catherine (2000). "Specifications for the Census 2000 Accuracy & Coverage Evaluation Computer Assisted Interview (CAI) Person Interview", DSSD Census 2000 Procedures and Operations Memorandum S-QD-01.
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Appendix A

These tables are a prototype that will show the distribution of interviews conducted during the telephone phase by outcome code for each Regional Office. Each prototype table will have one table each for all 12 ROs.

Table 26 is a prototype of table 1 for each regional office.

Table 26: Distribution of Person Interviews by Telephone and Personal Visit Phases
REGIONAL OFFICE NAME

	Telephone Phase	Personal Visit Phase	Total Workload
# Interviews Conducted			
Percent of PI Workload			100%

Table 27 is a prototype of table 2 for each regional office.

Table 27: Distribution of All Interviews Conducted by Interview Week- Unweighted
REGIONAL OFFICE NAME

Interview Week	# Interviews Conducted Overall	Overall Percent of PI Workload	# Interviews Conducted During Telephone Phase	Telephone Percent of PI Workload	# Interviews Conducted During Personal Visit Phase	Personal Visit Percent of PI Workload
April 24, 2000						
May 1, 2000						
May 8, 2000						
May 15, 2000						
....						
September 11, 2000						

Table 28 is a prototype of table 3 for each regional office.

Table 28: Distribution of All Interviews Conducted by Weekly Statistic -Unweighted
REGIONAL OFFICE NAME

	# Interviews Conducted Overall	# Interviews Conducted During Telephone Phase	# Interviews Conducted During Personal Visit
Median Number of Interviews Completed per Week			
Mean Number of Interviews Completed per Week			
Maximum Number of Interviews Completed per Week			
Minimum Number of Interviews Completed per Week			

Telephone Phase Tables

Table 29 is a prototype of table 4 for each regional office.

Table 29: Distribution of Interviews Conducted During the Telephone Phase by Field Outcome Code for Interview Day - Unweighted

REGIONAL OFFICE NAME

	Completed Interviews	Sufficient Partial Interviews	Refusal, No knwl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day
Number of Interviews					
Percent of Total Interviews					

Table 30 is a prototype of table 8 for each regional office.

Table 30: Distribution of Interviews Conducted During the Telephone Phase by Field Outcome Code for Interview Day by Regional Office - Unweighted
REGIONAL OFFICE NAME

Date of Interview	Completed Interviews	Sufficient Partial Interviews	Refusal, No Knwl Resp or Other Refusal	Vacant on Interview Day	Non Existent on Interview Day	Total Interviews
April 24, 2000						
April 25, 2000						
April 26, 2000						
.						
.						
June 13, 2000						
Total Interviews						

Table 31 is a prototype of table 9 for each regional office.

Table 31: Distribution of Interviews Conducted During the Personal Visit Phase by Occupied Status Code by Interview vs Census Day Status - Unweighted
REGIONAL OFFICE NAME

Occupied Status Code	On Interview and Census Day	On Interview Day Only	On Census Day Only	Total Units
Number of Occupied Units				
Number of Vacant Units				
Number of Non Existent Units				
Number of Refusals/No occupied information provided				
Total Units				

Table 32 is a prototype of table 10 for each regional office.

Table 32: Distribution of Interviews Conducted During the Telephone Phase by Interview Day Outcome and by Interview Day vs Census Day Occupied Status - Unweighted

REGIONAL OFFICE NAME

	On Interview Day and Census Day	On Interview Day Only	On Census Day Only	Total Interviews
Interview				
Household Member				
Proxy				
Refusals, No knwl respondents or other refusal				
Household Member				
Proxy				

Personal Visit Phase Tables

Table 33 is a prototype of table 11 for each regional office.

Table 33: Distribution of Interviews Conducted During the Personal Visit Phase by Field Outcome Code for Interview Day - Unweighted

REGIONAL OFFICE NAME

	Completed Interviews	Sufficient Partial Interviews	Refusal, No knwl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day
Number of Interviews					
Percent of Total Interviews					

Table 34 is a prototype of table 15 for each regional office.

Table 34: Distribution of Interviews Conducted During the Personal Visit Phase by Field Outcome Code for Interview Day by Regional Office - Unweighted
REGIONAL OFFICE NAME

Date of Interview	Completed Interviews	Sufficient Partial Interviews	Refusal, No knowl resp or other refusal	Vacant on Interview Day	Non Existent on Interview Day	Total Interviews
June 18, 2000						
June 19, 2000						
June 20, 2000						
Sept 11, 2000						
Total Interviews						

Table 35 is a prototype of table 16 for each regional office.

Table 35: Distribution of Interviews Conducted During the Personal Visit Phase by Occupied Status Code by Interview vs Census Day Status
REGIONAL OFFICE NAME

Occupied Status Code	On Interview and Census Day	On Interview Day Only	On Census Day Only	Total Units
Number of Occupied Units				
Number of Vacant Units				
Number of Non Existent Units				
Number of Refusals/No occupied Information Provided				
Total Units				

Table 36 is a prototype of table 17 for each regional office.

Table 36: Distribution of Interviews Conducted During the Personal Visit Phase by Interview Day Outcome and by Interview Day vs Census Day Occupied Status - Unweighted

REGIONAL OFFICE NAME - Unweighted

	Interview Day and Census Day	Interview Day Only	Census Day Only	Total Interviews
Interview				
Household Member				
Proxy				
Refusals, No knwl Respondents or Other Refusal				
Household Member				
Proxy				

Table 37 is a prototype of table 18 for each regional office.

Table 37: Distribution of NRCO cases by field outcome codes - Unweighted

REGIONAL OFFICE NAME

	NRCO Cases Completed Interviews	NRCO Cases Converted to Partial Interviews	NRCO Cases Refused	NRCO Cases Converted to Vacant	NRCO Cases Converted to Non- Existent	Total NRCO Cases
Number NRCO Cases						
Percent of all NRCO Cases						100%

Table 38 is a prototype of table 19 for each regional office.

Table 38: Distribution of NRCO Interviews in the Personal Visit Phase by Field Outcome Code
per Day - Unweighted

REGIONAL OFFICE NAME						
Date of Interview	Completed Interviews	Sufficient Partial Interviews	Refusals, No Knwl Resp or Other Refusal	Vacant on Interview Day	Non Existent on Interview Day	Total Interviews
07/27/00						
07/28/00						
07/29/00						
....						
09/11/00						